

# Recovery Plan Action Status

Plan Name: Lana'i Plant Cluster Recovery Plan

Plan Status: Final

Plan Date: 29-Sep-95

Lead Agency: USFWS

Lead Office: Pacific Islands Fish And Wildlife Office

(808)  
792-9400 )

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	1	111	Identify all wild populations	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii	Research: Population Surveys	Contract	This is an ongoing action, as the status of the species and their threats change constantly. Two historical populations of Abutilon menziesii have been relocated on State/City and County lands on Oahu at Kalaeloa and on DOD lands at Lualualei.

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No common name (Gahnia lanaiensis), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), Ha' iwale (Cyrtandra munroi)	1	1211	Determine fencing for Lana'ihale area	Partially Complete	FY 2000 - FY 2004		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, Castle & Cooke, Inc.	Management: Habitat Maintenance and Manipulation, Management: Planning, Management: Predator and Competitor Control	Contract, Internal Technical Assistance, Species Expert	The fences for Lanaihale have been determined through the cooperative agreement between ES and C&CI.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	1	1217	Monitor fenced areas for ungulates	Ongoing Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Castle & Cooke, Inc., U.S. Geological Survey, Biological Resources Division	Management: Habitat Maintenance and Manipulation	Contract	This task is current for all existing fenced areas.

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No common name (Gahnia lanaiensis), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), Ha' iwale (Cyrtandra munroi)	1	12321	Implement weed control for Lana'ihale sites	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Castle & Cooke, Inc.	Management: Habitat Maintenance and Manipulation	Contract	C&CI plans to control the major habitat altering weeds on Lanaihale as part of a larger habitat management effort, through a cooperative agreement with ES.



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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	1	12515	Control rodents in other areas, if needed	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Predator and Competitor Control	Contract	Rodent control is currently only conducted within the immediate vicinity of those species which are known to be impacted by rodents, including species of the genera Cyanea, Cyrtandra, and Delissea. Large scale rodent control will not be possible until aerial pesticide application is registered for use in the state of Hawaii.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	1	1262	Compensate for missing pollination vectors	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation	Contract, Graduate Student, Internal Technical Assistance, Species Expert	This task has not been started because little is known about the pollinators of these species.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	1	128	Monitor status of wild populations	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, U.S. Geological Survey, Biological Resources Division	Research: Population Surveys	Contract	This is an ongoing task, as the status of the species change constantly, but it does not occur as frequently as it is needed - annually, and more frequently for genetic safety net species (fewer than 50 remaining individuals in the wild).

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No common name (Gahnia lanaiensis)	2	21	Determine native vs. alien status of Gahnia lanaiensis	Complete	FY 2007	FY 2009	U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Taxonomic Studies	Contract	Paper has been published identifying this species as not valid, actually introduced Gahnia melanocarpa from Australia.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	23	Map alien vegetation	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, U.S. Geological Survey, Biological Resources Division	Research: Habitat Status	Contract	This task is being conducted for some alien species by the Maui and Molokai Invasive Species Committees and BRD's Hawaii Ecosystems at Risk, but a more concerted effort is needed.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	25	Study reproductive viability	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Population Surveys	Contract	The current knowledge has been gathered mainly for incidental observations during propagation, field surveys, and monitoring. More detailed experimental research is needed to fully understand this aspect of these species.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	276	Determine impact of other diseases / pests	Ongoing Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Hawaii Department of Agriculture	Research: Predation	Contract	This is an ongoing task, as new threats are constantly entering the state and becoming established in natural areas.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	311	Identify sites for expansion	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Management: Reintroduction	Internal Administrative	Sites have been selected by DLNR for reintroduction into small scale fenced areas for several species.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko'oloa'ula (Abutilon menziesii), Ha'iwale (Cyrtandra munroi)	2	312	Identify material to be used for augmentation	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Management: Reintroduction	Contract	This task is limited based on material available in ex situ collections.
No common name (Gahnia lanaiensis)	2	3135	Determine propagation methods for Gahnia lanaiensis	Discontinued	Prior to FY 1995	FY 2009	U.S. Fish and Wildlife Service, Ecological Services Division, National Tropical Botanical Garden, Hawaii Department of Land and Natural Resources	Management: Propagation	Contract	This species is no longer considered an endemic to Lanai or the state of Hawaii.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	314	Determine reintroduction techniques	Partially Complete	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, National Tropical Botanical Garden, Hawaii Department of Land and Natural Resources	Management: Reintroduction	Contract	
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	321	Implement Expansion plans: Propagate ex situ	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, National Tropical Botanical Garden, Hawaii Department of Land and Natural Resources	Management: Propagation	Contract	This task is limited based on the material available in ex situ collections.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	322	Implement Expansion plans: Prepare sites	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, Castle & Cooke, Inc.	Management: Reintroduction	Contract	
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	323	Implement Expansion plans: Plant	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, Castle & Cooke, Inc.	Management: Reintroduction	Contract	This task is limited based on the material available in ex situ collections.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	324	Implement Expansion plans: Monitor and maintain new individuals	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, Castle & Cooke, Inc.	Management: Reintroduction	Contract	
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	41	Investigate feasibility and desirability of introduction	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Management: Reintroduction	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), No common name (Phyllostegia glabra var. lanaiensis), No common name (Abutilon eremitopetalum), Ko'oloa'ula (Abutilon menziesii), Ha'iwale (Cyrtandra munroi)	2	421	Identify sites for reestablishment	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Management: Reintroduction	Contract	
No common name (Gahnia lanaiensis)	2	4224	Identify material for Gahnia lanaiensis reestablishment	Discontinued	FY 1995 - FY 1999	FY 2009	U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Reintroduction	Contract	This task is discontinued because this is no longer a valid species.
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), No common name (Phyllostegia glabra var. lanaiensis), No common name (Abutilon eremitopetalum), Ko'oloa'ula (Abutilon menziesii), Ha'iwale (Cyrtandra munroi)	2	431	Implement reestablishment plans: Secure reestablishment sites	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii	Acquisition: General	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), No common name (Phyllostegia glabra var. lanaiensis), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	432	Implement reestablishment plans: Prepare reestablishment sites	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii	Management: Habitat Maintenance and Manipulation	Contract	
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), No common name (Phyllostegia glabra var. lanaiensis), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	433	Implement reestablishment plans: Plant	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii	Research: Reintroduction	Contract	This task is limited based on the material available in ex situ collections.
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), No common name (Phyllostegia glabra var. lanaiensis), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	434	Implement reestablishment plans: Monitor and maintain new populations	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii	Management: Habitat Maintenance and Manipulation	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	3	51	Determine number of populations needed for long term survival	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Other: Regulations	Contract	
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	3	52	Refine/revise downlisting and delisting criteria	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Other: Regulations	Contract	